

**TU1A Amplifier Technology**

*Joint RFIC and IMS Session*  
*Chair: J. Schellenberg,*  
*Schellenberg Associates*  
*Co-chair: S. Weinreb,*  
*Univ. of Massachusetts*

ROOM A201

**TU1B Millimeter-Waves Over Fiber Systems**

*Chair: J.B. Horton, TRW*  
*Co-chair: A.J. Seeds,*  
*University College London*

ROOM A207

**TU1A-1: Silicon RF GCMOS Performance for Portable Communications Applications**

E. Spears, D. Ngo, J. Ma, H.-B. Liang,  
D. Spooner, J. Ford, S. Cheng, B. Courson,  
B. Yeung, J. Alvarez, J. Bhalla, Motorola,  
Tempe, AZ

8:00 AM

**TU1B-1: Broadband Wireless Access Using Millimetre-Wave Over Fibre Systems**

A.J. Seeds, Dept. of EEE, Univ. College London, London, England

8:20 AM

**TU1A-2: High Dynamic Range Variable Gain Amplifier for CDMA Applications**

M. Kasashima, S. Tachi, K. Tanaka, Oki Elec. Ind. Co., Ltd., Tokyo, Japan

8:30 AM

**TU1A-3: A Novel Integrated Microwave Bias Network for Low Cost Multistage Amplifiers**

H. Morkner, M. Frank, K. Negus, T.-M. Kao, Hewlett-Packard, CMCD R&D, Newark, CA

8:40 AM

**TU1B-3: Invited: Outdoor and Indoor Applications for Broadband Local Loop with Fibre Supported mm-Wave Radio Systems**

M. Goloubkoff, E. Penard, D. Tanguy, P. Legaud, D. Mattoorasing, F. Devaux, C. Minot, France Telecom/CNET, Lannion, France

9:00 AM

**TU1A-4: MMIC GaAs Transimpedance Amplifiers for Optoelectronic Applications**

P. Dueme, M. Schaller, Dassault Electronique, St. Cloud, Fr., D. Mattoorasing, Ctr. Natl. d'Etudes et Telecomm, Bagneux, Fr., S. Maricot, Inst. Elec. Microelec., Villeneuve d'Ascq, Fr., C. Rumelhard, Convs. Metiers, Paris, Fr.

9:20 AM

**TU1A-5: Ka-Band Ultra Low Noise MMIC Amplifier Using Pseudomorphic HEMTs**

S. Fujimoto, T. Katoh, T. Ishida, T. Oku, Y. Sasaki, T. Ishikawa, Y. Mitsui, Mitsubishi Elec. Corp., Hyogo, Japan

9:30 AM

**TU1C Microwave Applications of Silicon Carbide**

*Focused Session*  
*Chair: R. Kaul,*  
*Army Research Laboratory*  
*Co-chair: K.D. Breuer,*  
*AEL Industries, Inc.*

ROOM A102

**TU1C-1: The Operation of Microwave Power Amplifiers Fabricated from Wide Bandgap Semiconductor Transistors**

R.J. Trew, Case Western Reserve University, Dept. of Elect. Engr. and Applied Physics, Cleveland, OH

**TU1C-2: Wide Dynamic Range RF Mixing SIC Junctions**

C. Fazi, Army Research Lab, Ft. Mo

**TU1C-3: Invited: Recent Application of Silicon Carbide to High Power Microwave**

A.W. Morse, P.M. Esker, J. Hawkins, R. Barron, C. Davis, L. Chen, J. Ostrop, C. Brandth, R. Clarke, R. Siergiej, Northrop Grumman Corp., ESSD, Baltimore, MD, Pittsburgh, PA

**TU1C-4: An FDTD Impedance Boundary Condition and Its Application to Waveguide Discontinuity Analyses**

T. Shibata, NTT System Elec. Labs., Kanagawa, Japan, Y. Qian, T. Itoh, EE Dept., UCLA, Los Angeles, CA

**TU1C-5: Physical Simulation of Complete Millimeter-Wave Amplifiers Using Full-Wave FDTD Technique**

S.M. Sohel Imtiaz, S.M. El-Ghazaly, Dept. of EE, Telecomm. Research Ctr., Arizona State Univ., Tempe, AZ

**TU1D Numerical Methods in Time Domain I****TU1D Numerical Methods in Time Domain I**

*Chair: K. Naishadam,*  
*Wright State University*

ROOM A101

**TU1D-1: Transient Electromagnetic Analysis and Model Complexity Reduction Using the Partial Element Equivalent Circuit Formulation**

W. Pinello, A. Cangellaris, ECE Dept., Univ. of Arizona, Tucson, AZ, A. Ruehli, IBM Research Div., Yorktown Heights, NY

**TU1D-2: Nonlinear Analysis of a Microwave Diode Mixer Using the Extended FDTD**

M. Chen, T. Itoh, EE Dept., UCLA, Los Angeles, CA, S.T. Chew, Defense Science Org., Singapore

**TU1D-3: A Magnetic Current Formulation for Modelling Discrete Components in the FDTD Method**

R. Gillard, K. Moustadir, F. Le Bolzer, J. Citerne, LCST/INSA, Rennes, France

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T. Shibata, NTT System Elec. Labs., Kanagawa, Japan, Y. Qian, T. Itoh, EE Dept., UCLA, Los Angeles, CA

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S.M. Sohel Imtiaz, S.M. El-Ghazaly, Dept. of EE, Telecomm. Research Ctr., Arizona State Univ., Tempe, AZ

**TU1D-6: Relationship Between the Compact Complex and Real Variable 2-D FDTD Methods in Arbitrary Anisotropic Dielectric Waveguides**

A.P. Zhao, J. Juntunen, A.V. Raisanen, Radio Lab., Dept. of ECE, Helsinki Univ. of Tech., Espoo, Finland

**TU1D-7: A Hybrid Full-Wave Analysis of Via Hole Grounds Using Finite Difference and Finite Element Time Domain Methods**

D. Koh, H. Le, T. Itoh, EE Dept., UCLA, Los Angeles, CA

**TU1E Medical Applications and Biological Effects**

*Chair: M.A. Stuchly,*  
*University of Victoria*

ROOM A108

**TU1E-1: Human Organs Dosimetry for Transient Electromagnetic Fields**

M. Mrozowski, M. Okoniewski, E. Okoniewski, M.A. Stuchly, ECE, Univ. of Victoria, Victoria, B.C., Canada

**TU1E-2: Modeling of Interaction of Electromagnetic Fields from a Cellular Telephone with Hearing Aids**

M. Okoniewski, M.A. Stuchly, S.S. Stuchly, Dept. of ECE, Univ. of Victoria, Victoria, B.C., Canada

**TU1E-3: Theoretical Analysis of Voltage-Gated Membrane Channels Under GSM and DECT Exposure**

F. Apollonio, G. D'Inzeo, Dept. of EE, Univ. "La Sapienza" of Roma, Italy, L. Tarricon, Inst. of Elec., Univ. of Perugia, Italy

**TU1E-4: Measurements of Complex Permittivity of Biological and Organic Liquids up to 110 GHz**

F. Duhamel, I. Huynen, A. Vander Vorst, Microwave Lab. UCL, Louvain-la-Neuve, Belgium

**TU1E-5: Coupling Parameters of Concentric Multi-Element Waveguide Systems**

K.S. Nikita, N.K. Uzunoglu, Dept. of ECE, Nat'l. Tech. Univ. of Athens, Athens, Greece

**TU1E-6: An Attempt of High-Speed Imaging of the Chirp Radar-Type Microwave Computed Tomography**

M. Miyakawa, T. Hayashi, Dept. of Info. Eng., Niigata Univ., Japan